CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	CP-2017-10-03-03 **Date: 05-10-17**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town, BBMP, Bangalore.
Project Name	:	Providing Collapsible Gate, Water Supply & Electrical Fitting to Rangamandira at Judicial Layout in ward no.04
Agency	:	Sri. B. R. Mohan, No.10, 1st B Main Chikkabommasandra, Yelahanka, Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-07/W.O/22/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	03-10-17
Sample ID No	:	2017-10-03-03/01
Sample Type	:	Dalmia Cement 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	03-10-17

SLNo.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.15	–
2	Finess by Air permeablity method (m^2/kg, Min)	287.5	225m^2/kg, Min
3	Density (gm/cc)	3.11	–
4	Standard Consistency (%)	28.0%	Not specified
5	Initial Setting time	160 minutes	Not less than 30 minutes
6	Final Setting time	290 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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Certificate No.: TC-5548

CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	CP-2017-10-03-03 **Date: 31-10-17**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town, BBMP, Bangalore.
Project Name	:	Providing Collapsible Gate, Water Supply & Electrical Fitting to Rangamandira at Judicial Layout in ward no.04
Agency	:	Sri. B. R. Mohan, No.10, 1st B Main Chikkabommasandra, Yelahanka, Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-07/W.O/22/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	03-10-17
Sample ID No	:	2017-10-03-03/01
Sample Type	:	Dalmia Cement 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	03-10-17

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	38.5N/mm^2	Not less than 37 N/mm^2
3	28 Days	55.0N/mm^2	Not less than 53 N/mm^2

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-10-03-03** **Date: 06-10-17**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town, BBMP, Bangalore.
Project Name	:	Providing Collapsible Gate, Water Supply & Electrical Fitting to Rangamandira at Judicial Layout in ward no.04
Agency	:	Sri. B. R. Mohan, No.10, 1st B Main Chikkabommasandra, Yelahanka, Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-07/W.O/22/2017-18
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	03-10-17
Sample ID No	:	2017-10-03-03/02(a)
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	03-10-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : **15000** **grams**

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	1215	1215	8.1	91.9	90-100
3	20 mm	5320	6535	43.6	56.4	30-70
4	10 mm	6255	12790	85.3	14.7	10-35
5	4.75 mm	1637	14427	96.2	3.8	0-5
6	Pan	573	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-10-03-03** **Date: 06-10-17**

Sample ID No : 2017-10-03-03/02(a)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	13.3	
3	Specific Gravity	2.66	–
4	Bulk Density(Loose) (Kg/l)	1.49	–
5	Bulk Density(Compacted) (Kg/l)	1.51	–
6	Water Absorption(%)	0.23	–

Note:
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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	CP-2017-10-03-03 Date: 06-10-17
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town, BBMP, Bangalore.
Project Name	:	Providing Collapsible Gate, Water Supply & Electrical Fitting to Rangamandira at Judicial Layout in ward no.04
Agency	:	Sri. B. R. Mohan, No.10, 1st B Main Chikkabommasandra, Yelahanka, Bangalore.
Customer Reference	:	EE(YNK.D)E-PMT-07/W.O/22/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	03-10-17
Sample ID No	:	2017-10-03-03/02(b)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	03-10-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	423	423	8.5	91.5	90-100
3	10 mm	2537	2960	59.2	40.8	25-55
4	4.75 mm	1636	4596	91.9	8.1	0-10
5	Pan	404	5000	100	0	-

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-10-03-03** **Date: 06-10-17**

Sample ID No : 2017-10-03-03/02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	13.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.5	
3	Specific Gravity	2.58	–
4	Bulk Density(Loose) (Kg/l)	1.52	–
5	Bulk Density(Compacted) (Kg/l)	1.58	–
6	Water Absorption(%)	0.26	–
7	Aggregate crushing Value(%)	25.2	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	22.3	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

Note:

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R KARTHIK RECHAN
Authorized Signature
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST REPORT OF FINE AGGREGATE

Lab ID	:	**CP-2017-10-03-03** **Date: 06-10-17**
Customer	:	Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.
Address	:	Yelahanka New Town, BBMP, Bangalore.
Project Name	:	Providing Collapsible Gate, Water Supply & Electrical Fitting to Rangamandira at Judicial Layout in ward no.04
Agency	:	Sri. B. R. Mohan, No.10, 1st B Main Chikkabommasandra, Yelahanka, Bangalore.
Customer's Reference	:	EE(YNK.D)E-PMT-07/W.O/22/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	03-10-17
Sample ID No	:	2017-10-03-03/03
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS 383 : 2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1, 3) RA2012 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	03-10-17
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	25	25	2.5	97.5	90-100	90-100	90-100	95-100
3	2.36 mm	127	152	15.2	84.8	60-95	75-100	85-100	95-100
4	1.18 mm	275	427	42.7	57.3	30-70	55-90	75-100	90-100
5	600 micron	137	564	56.4	43.6	15-34	35-59	60-79	80-100
6	300 micron	219	783	78.3	21.7	5-20	8-30	12-40	15-50
7	150 micron	154	937	93.7	6.3	0-10	0-10	0-10	0-15
8	Pan	63	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : CP-2017-10-03-03

Sample ID No : 2017-10-03-03/03

Date: 06-10-17

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	2.64	–
2	Specific Gravity	2.58	–
3	Material finer than 75 micron(%)	5.80	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com
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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2017-10-14-03 Date: 16/10/2017

Customer : Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.

Address : Yelahanka New Town, BBMP, Bangalore.

Project Name : Providing Collapsible Gate, Water Supply & Electrical Fitting to Rangamandira at Judicial Layout in ward no.04

Agency : Sri. B. R. Mohan, No.10, 1st B Main Chikkabommasandra, Yelahanka, Bangalore.

Customer's Reference : EE(YNK.D)E-PMT-07/W.O/22/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 14-10-17

Sample ID No : 2017-10-14-03/01

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 16/10/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M20	09/10/2017	16/10/2017	149.22 X 150.54 X 149.22	22464	8.265	386.4	17.2	17.6
2	PCC	M20	09/10/2017	16/10/2017	150.65 X 150.34 X 151.32	22649	8.252	398.6	17.6	
3	PCC	M20	09/10/2017	16/10/2017	151.88 X 150.15 X 150.11	22805	8.249	408.2	17.9	

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2017-10-14-03 **Date: 06/11/2017**

Customer : Assistant Executive Engineer, Yelahanka New Town Sub division, BBMP, Bangalore.

Address : Yelahanka New Town, BBMP, Bangalore.

Project Name : Providing Collapsible Gate, Water Supply & Electrical Fitting to Rangamandira at Judicial Layout in ward no.04

Agency : Sri. B. R. Mohan, No.10, 1st B Main Chikkabommasandra, Yelahanka, Bangalore.

Customer's Reference : EE(YNK.D)E-PMT-07/W.O/22/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 14-10-17

Sample ID No : 2017-10-14-03/02

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 06/11/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M20	09/10/2017	06/11/2017	151.21 X 150.11 X 150.34	22698	8.222	515.2	22.7	23.0
2	PCC	M20	09/10/2017	06/11/2017	150.26 X 150.32 X 150.11	22587	8.297	528.5	23.4	
3	PCC	M20	09/10/2017	06/11/2017	150.54 X 149.11 X 151.76	22447	8.243	514.0	22.9	

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